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Title : Static Testing of Metallic Rudder of a Military Aircraft		*Document No.* PD ST 8712 *Date of issue*: June 87
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Abstract : The objective of static testing of metallic rudder was to determine its spar line and trailing edge deflections under design load. This information was required for the design of composite rudder which would replace the metallic rudder. A test set-up consisting of whiffle tree and loading mechanism was fabricated, in which attachments of the rudder were simulated. Aerodynamic loading was distributed at 20 points on the rudder. These loads were applied by means of a special canvas pads bonded on to the rudder and these pads were connected to the whiffle tree. The deflections at many points were measured with the help of dial guages. A strain guaged load cell was used to monitor the applied load. The maximum deflections on the spar line and trailing edge for the ultimate design load were found to be 9 mm and 51 mm respectively.